

SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Date of issue: 03.08.2015

Revision date: 19.01.2017

Version: 2.1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Produktidentifikator

Product name: Gas mixture (Xe-129, N₂, He)
EC-No.: See section 3
CAS-No.: See section 3
Index No.: See section 3
REACH Registration no.: Not required for all contained substances

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For research and medical purposes

1.3 Details of the supplier of the safety data sheet

Supplier: NUKEM Isotopes Imaging GmbH,
Industriestrasse 13,
63755 Alzenau, Germany
Telephone: +49 (0)6023 91 1726
Telefax: +49 (0)6023 91 1614
Email: Christian.Schuch@nukemisotopes.de

1.4 Emergency telephone number

24 hr. Emergency Telephone: **+1-703-253-4254** (English; Contract no.: 01009)

2. HAZARDS INDICATION

2.1 Classification of the substance or mixture

Gases under pressure (compressed gas), H280

For the full text of the H-phrases mentioned in this section, see section 2.2.

Classification according to directive 67/548/EEG or directive 1999/45/EG

Not classified as dangerous substance / mixture

2.2 Label elements

Labeling according to Regulation (EC) No. 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard symbols:



GHS04

Signal word:

Warning

Hazard statement(s):

H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s):

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

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3. CHEMICAL CHARACTERIZATION

Substance Name	Formula Molar Mass	CAS-Number EC-Number Index-Number	Content
Xenon-129	Xe-129 129 – 131 g/mol (depending on the Xenon-129 enrichment)	7440-63-3 (for natural Xe) 231-172-7 ----	1% – 3%
Nitrogen	N ₂ 14 g/mol	7727-37-9 231-783-9 ----	~ 10%
Helium	He 4 g/mol	7440-59-7 231-168-5 ----	87% – 89%

4. FIRST AID MEASURES

4.1 Description of first aid measures

First Aid General Information

Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

4.2 Most important symptoms and effects, both acute and delayed

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

4.3 Indication of any immediate medical attention and special treatment needed

None.

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No further relevant information available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:

Exposure to fire may cause containers to rupture/explode. Non-flammable.

5.2 Special hazards arising from the substance or mixture

Asphyxiate in high concentrations.

5.3 Advice for firefighters

Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.

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6.2 Environmental precautions

Try to stop release.

6.3 Methods and material for containment and cleaning up

No information available.

6.4 Reference to other sections

See Section 8 and 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Prevent further leakage or spillage if safe to do so.

7.2 Conditions for safe storage, including any incompatibilities

Content under pressure. Store in a cool place.

7.3 Specific end use(s)

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation.

8.2 Exposure controls

Handle in accordance with good industrial hygiene and safety practice

Respiratory protection:

A self contained breathing apparatus shall be used in oxygen-deficient atmospheres.

Eye protection:

Safety goggles.

8.3 Environmental exposure controls:

No information available.

9. PHYSICAL/CHEMICAL PROPERTIES

General Information for all containing gases

Appearance:	Compressed gas
Odor:	Odorless
pH-value at 20 °C:	Not applicable
Flash point:	No information available
Flammability (solid, gaseous):	No information available
Ignition temperature:	No information available
Decomposition temperature:	No information available
Self-igniting:	No information available
Explosion limits:	Lower: No information available. Upper: No information available.
Oxidizing properties:	No oxidizing properties.
Vapor pressure (at 20 °C):	No information available

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Evaporation rate:	No information available
Partition coefficient: n-octanol/water:	No information available
Viscosity, dynamic:	No information available

	Xenon	Nitrogen	Helium
Melting point	-111 °C	-210 °C	-272 °C
Boiling point (1.013 hPa)	-108,2 °C	-196 °C	-267 °C
Vapor Density (Air = 1)	4,55	0,97	0,138
Gas Density [kg/m ³] @ 20°C	5,47	1,17	0,166
Water solubility [vol/vol @ 20°C and 1 atm]	0,108	0,023	0,0089

10. STABILITY AND REACTIVITY

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Stable at recommended conditions.

10.3 Possibility of hazardous reactions

None known.

10.4 Conditions to avoid

None under recommended storage and handling conditions.

10.5 Incompatible materials

None known

10.6 Hazardous decomposition products

No information available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

No known toxicological effects from this product.

11.2 Additional toxicological information

None

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No ecological damage caused by this product.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

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12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

None.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment methods

May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Dispose of contents/container in accordance with local/regional/national/international regulations.

13.2 Contaminated packaging

Transportable cylinders (empty, residual pressure): Return to supplier / manufacturer.

14. TRANSPORT INFORMATION

14.1 UN-Number

ADR/RID, IMDG, IATA: 1956

14.2 UN proper shipping name

ADR/RID: COMPRESSED GAS, N.O.S. (HELIUM, NITROGEN MIXTURE)

IMDG: COMPRESSED GAS, N.O.S. (HELIUM, NITROGEN MIXTURE)

IATA: compressed gas, n.o.s. (Helium, Nitrogen mixture)



14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA: 2.2

14.4 Packing group

ADR/RID, IMDG, IATA: ---

14.5 Environmental hazards:

ADR/RID, IMDG, IATA: No

14.6 Special precautions for user

ADR/RID, IMDG, IATA: No information available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

No

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No information available.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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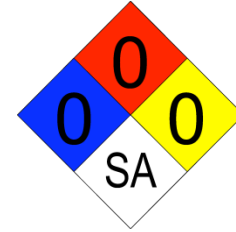
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16. OTHER INFORMATION

NFPA health hazard:	0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard:	0 - Materials that will not burn.
NFPA reactivity:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
NFPA specific hazard:	SA - This denotes gases which are simple asphyxiants.



Disclaimer

Product is supplied for research and laboratory use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. See invoice or packing slip for additional terms and conditions of sale.